

CLAIMS

What is claimed:

1. A hybrid disc comprising:

a substrate;

a label printed surface formed on said substrate;

a first recording surface having identification information expressing a disc type, recorded in a predetermined recording area, said first recording surface being formed at a first interval below said label printed surface; and

a second recording surface formed at a second interval below said label printed surface;

wherein said second interval is longer than said first interval.

2. A hybrid disc according to claim 1, wherein said first recording surface is a CD (compact disc) recording surface on which CD data is recorded, and said second recording surface is a DVD (digital versatile disc) recording surface on which DVD data is recorded.

3. A hybrid disc according to claim 2, wherein said predetermined recording area is a file which is generally not used, a sector which is predetermined, or a TOC (table of contents).

4. A method of discriminating a hybrid disc in a playback apparatus, the hybrid disc having identification information expressing a disc type being and recorded in a predetermined recording area, the method comprising the steps of:

irradiating a CD (compact disc) laser beam on an optical disc installed in the playback apparatus;

if the CD laser beam reflected from the optical disc is readable data, checking whether the identification information is recorded in the predetermined recording area; and

8 recognizing the optical disc as the hybrid disc, if the identification information is
9 recorded in the predetermined recording area.

1 5. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the step of setting a CD playback mode, if the identification information is not
3 recorded in the predetermined recording area.

1 6. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the steps of:
3 displaying a message requesting a selection of one of a CD playback mode and a
4 DVD playback mode, if the identification information is recorded in the predetermined
5 recording area; and
6 selectively setting one of the CD playback mode and the DVD playback mode
7 according to the selection of the playback modes.

1 7. A method of discriminating a hybrid disc according to claim 6, wherein said
2 predetermined recording area is a file which is generally not used, a sector which is
3 predetermined, or a TOC (table of contents).

1 8. A method of discriminating a hybrid disc according to claim 7, further
2 comprising the step of irradiating the CD laser beam on the optical disc to read a CD type of
3 reproduction data from the optical disc if the selected playback mode is the CD playback
4 mode, and irradiating a DVD laser beam on the optical disc to read a DVD type of
5 reproduction data if the selected playback mode is the DVD playback mode.

1 9. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the steps of:
3 automatically selecting one of the CD playback mode and the DVD playback mode if
4 the identification information is recorded in the predetermined recording area; and
5 reproducing data from the optical disc according to the selected playback mode.

1 10. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the steps of:

3 automatically selecting one of a CD playback mode and a DVD playback mode if the
4 identification information is recorded in the predetermined recording area; and

5 irradiating the CD laser beam on the optical disc to read a CD type of reproduction
6 data from the optical disc if the selected playback mode is the CD playback mode, and
7 irradiating a DVD laser beam on the optical disc to read a DVD type of reproduction data if
8 the selected playback mode is the DVD playback mode.

1 11. A method of discriminating a type of an optical disc installed in a playback
2 apparatus, comprising the steps of:

3 (a) irradiating a CD (compact disc) laser beam on the optical disc;

4 (b) determining whether the CD laser beam reflected from the optical disc is readable
5 data;

6 (c) checking whether identification information is recorded in a predetermined
7 recording area of the optical disc if the reflected CD laser beam is readable data; and

8 (d) determining the optical disc to be a hybrid disc containing data of at least two
9 different formats if the identification information is recorded in the predetermined recording
10 area.

1 12. The method according to claim 11, further comprising the step of (e)
2 determining the optical disc to be a CD if the reflected CD laser beam is readable data in
3 said step (b) and the identification information is not recorded in the predetermined recording
4 area in said step (c).

1 13. The method according to claim 11, further comprising the steps of:

2 (e) irradiating a DVD (digital versatile disc) laser beam on the optical disc if the
3 reflected CD laser beam is not readable data in said step (b);

4 (f) determining whether the DVD laser beam reflected from the optical disc is
5 readable data; and

6 (g) determining the optical disc to be a DVD if the reflected DVD laser beam is
7 readable data in said step (f).

1 14. The method according to claim 12, further comprising the steps of:
2 (f) irradiating a DVD (digital versatile disc) laser beam on the optical disc if the
3 reflected CD laser beam is not readable data in said step (b);

4 (g) determining whether the DVD laser beam reflected from the optical disc is
5 readable data; and

6 (h) determining the optical disc to be a DVD if the reflected DVD laser beam is
7 readable data in said step (g).

1 15. The method according to claim 13, further comprising the step of:
2 (h) discriminating the optical disc to be a type other than the CD and the DVD if the
3 reflected DVD laser beam is not readable data in said step (f).

1 16. The method according to claim 14, further comprising the step of:
2 (i) discriminating the optical disc to be a type other than the CD and the DVD if the
3 reflected DVD laser beam is not readable data in said step (g).

1 17. The method according to claim 11, further comprising the steps of:
2 (e) awaiting an input from a user requesting selection of one of a CD playback mode
3 and a DVD playback mode if the optical disc is determined to be the hybrid disc in said step
4 (d); and

5 (f) reproducing data from the hybrid disc according to the selected one of the CD
6 playback mode and the DVD playback mode.

1 18. The method according to claim 16, further comprising the steps of:
2 (j) awaiting an input from a user requesting selection of one of a CD playback mode
3 and a DVD playback mode if the optical disc is determined to be the hybrid disc in said step
4 (d); and

5 (k) reproducing data from the hybrid disc according to the selected one of the CD
6 playback mode and the DVD playback mode.

1 19. A hybrid disc comprising:
2 a substrate,
3 a first recording surface formed at a first level in said substrate, said first recording
4 surface including a first format type of reproduction data and a predetermined recording area
5 having identification information indicating that the hybrid disc is a hybrid disc type; and
6 a second recording surface formed at a second level in said substrate, said second
7 recording surface including a second format type of reproduction data different from said
8 first type of reproduction data.

1 20. A playback apparatus to distinguish a type of an optical disc from which data
2 is to be reproduced, comprising:
3 an optical unit to irradiate a first format type laser beam on the optical disc; and
4 a processor to read the first format type laser beam reflected from the optical disc, to
5 check whether the optical disc has identification information recorded in a predetermined
6 recording area of the optical disc indicating that the optical disc is a hybrid disc if the
7 reflected first format type laser beam is readable, and to determine that the optical disc is the
8 hybrid disc if the optical disc has the identification information in the predetermined
9 recording area.

1 21. The playback apparatus as claimed in claim 20, wherein the processor
2 determines the optical disc to be a first type format optical disc if the reflected first format
3 type laser beam is readable; causes said optical unit to irradiate a second format type laser
4 beam on the optical disc if the reflected first format type laser beam is not readable, and
5 determines the optical disc to be a second type format optical disc if the second type format
6 laser beam reflected from the optical disc is readable.

1 22. The playback apparatus as claimed in claim 21, wherein the first type format
2 is a compact disc (CD) format and the second type format is a digital versatile disc (DVD)
3 format.

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